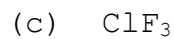


Name: \_\_\_\_\_

**Solve the following problems:**

1. (12 pts.) Draw the Lewis structure for the following:

Electron Group Geometry: \_\_\_\_\_  
Molecular Geometry: \_\_\_\_\_Electron Group Geometry: \_\_\_\_\_  
Molecular Geometry: \_\_\_\_\_Electron Group Geometry: \_\_\_\_\_  
Molecular Geometry: \_\_\_\_\_

2. (6 pts) (a) Arrange the following atoms in order of **increasing** electronegativity: **N, O, K**.

(b) What type of bond would each of those atoms make with another O atom (polar, nonpolar or ionic)?

i. N \_\_\_\_\_

ii. O \_\_\_\_\_

iii. K \_\_\_\_\_

3. (7 pts.) The cyanate ion ( $\text{NCO}^-$ ) has three possible Lewis structures. Draw these three Lewis structures and determine which structure is the preferred one. Explain why.